

NEW Directions

in Emergency Preparedness



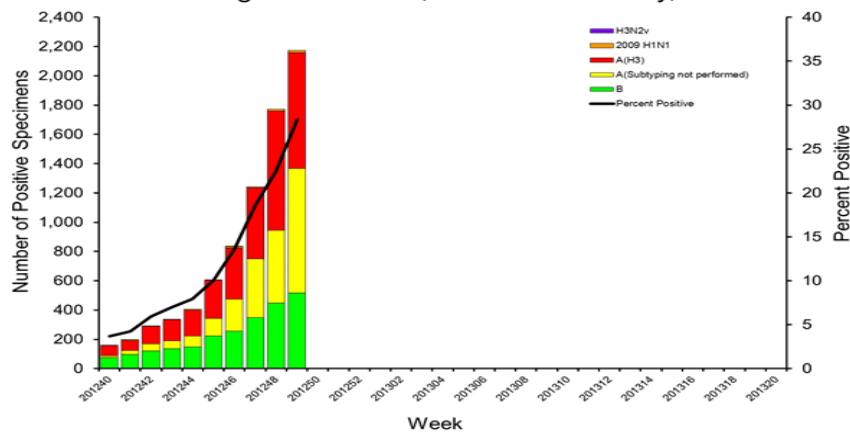
Biosurveillance

Seasonal Influenza

Seasonal influenza cases are beginning to take an upward swing in New York State and the rest of the Northern Hemisphere for the 2012-2013 season. According to the CDC, the number of cases across the Northern Hemisphere has increased in week 49 of 2012. As predicted in earlier surveillance models, the seasonal cases seen are typical for this time of year and represent the types of cases that were seen in the Southern Hemisphere during their flu season.

	Week 49
No. of specimens tested	7,663
No. of positive specimens (%)	2,172 (28.3%)
Positive specimens by type/subtype	
Influenza A	1,655 (76.2%)
2009 H1N1	14 (0.8%)
Subtyping not performed	850 (51.4%)
H3	791 (47.8%)
Influenza B	517 (23.8%)

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2012-13



In New York City, about 2.4% of outpatient and ED visits are for ILI. The number of confirmed cases within NYC has increased in the past two weeks from 2.7% to 5.9% and is rising, according to the New York City Department of Health and Mental Hygiene.

With the exception of Influenza A(H3N2)v, the zoonotic influenza transferred to humans from swine and Avian influenza, which has been reported globally, the vast majority of the cases presented have been typical and all are represented in the 2012-2013 vaccine. Please continue to monitor patients for ILI symptoms and report these cases to your local public health entity.

NYC DOHMH Influenza Vaccine Recommendations:

- All persons aged 6 months and older, particularly pregnant women and persons with underlying health conditions.
- All children who have not yet received at least 2 doses of seasonal influenza vaccine in the past.
- Children who have received 2 or more doses of seasonal influenza vaccine in the past but did not receive at least one dose of 2010 seasonal influenza vaccine with H1N1 and the monovalent 2009 H1N1 vaccine.
- Persons who cohabit with other patients in group homes, nursing facilities, and other facilities where the gathering of large numbers of persons is common.

Avian Influenza

A new study in the Journal of Emerging Infectious Diseases detailing the Avian H5N1 flu strains isolated in Egyptian patients from 2007 to 2011 found that there is little evidence of re-assortment, though a substantial amount of antigenic drift was noted. In the article, the researchers stated:

“We found minimal evidence of re-assortment and no exotic introductions. The Hemagglutinin genes of virus samples from 2011 formed a monophyletic group within the clad 2.2.1-C that also included known human strains from 2009 and 2010 and contemporary viruses from poultry. These findings are consistent with zoonotic transmission.”

The report states that the Avian flu virus is primarily transmitted among those who have had contact with infected poultry. The researchers found that these strains have been correlated as highly pathogenic with high mortality rates. There have been a few instances of human to human transmission, but they were self-contained. The progressive change in the properties of the H5N1 strains in Egypt do not appear to involve the re-assortment of the genomic subunits with extraneous influenza viruses.

Avian flu continues to be a concern throughout the world. Studies have indicated that a jump from avian populations to humans would be catastrophic and difficult to manage since resistance to antivirals in many strains are high. Also, it appears that avian flu strains found throughout Asia and the Middle East have been known to be very pathogenic and are accompanied by high mortality rates in general. Continued monitoring of the genotypic and phenotypic evolution of these strains will be imperative in combating a pandemic. The continuing plan for stemming a

pandemic is based in prevention protocols and education of the public on how to protect themselves from being infected.

Emerging Infectious Diseases

In 2011, a cluster of Mumps was identified in California by the California Department of Health. The cluster presented on a university campus at the campus health service. The cases were identified as possible Mumps and were confirmed utilizing Polymerase Chain Reaction at public health laboratories. The index case was an unvaccinated student with a history of recent travel to Western Europe. Two generations of transmission occurred before public health was alerted. This case demonstrates the need for required proof of MMR vaccination prior to entry to schools, the importance of early detection, and the rapid notification of public health. The cluster began in August of 2011 and resolved in January of 2012. Twenty nine cases were identified among the university population, many of whom had 2 doses of MMR prior to their enrollment.

As of the printing of this newsletter, influenza is the disease that has been most steadily increasing in the Northeast of the United States. This year's influenza cases have seen their earliest onset since 2003. Novel and recurring infectious diseases have found their way into populations aided by the newest vector, the airplane. It is possible for patients who have been immunized in their childhood to contract the pathogens against which they believe they have been vaccinated. Routine serological testing as part of general health exams can give good indication of a patient's immunological status. This would be especially useful in students who tend to commingle with people from all parts of the world.

The MMWR editorial on this cluster indicates that prompt recognition and reporting of clinically suspected infectious disease cases as well as early implementation of control measures can mitigate outbreaks effectively. While in the case of mumps, MMR vaccine and immune globulin are effective as post-exposure prophylaxis, booster vaccination of those with waning immunity can stave off transmission in these conditions. Remember to keep these and all infectious diseases in mind when planning for the response to infectious disease outbreaks. Get to know your community's partners and exercise these plans with them.